

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: GREENS POND	Lake Area (ha): 16.19
Town: MERRIMACK	Maximum depth (m): 4.3
County: Hillsborough	Mean depth (m): 1.0
River Basin: Merrimack	Volume (m <sup>3</sup> ): 158000
Latitude: 42°49'32" N	Relative depth: 0.9
Longitude: 71°31'08" W	Shore configuration: 1.51
Elevation (ft): 195	Areal water load (m/yr): 11.86
Shore length (m): 2150	Flushing rate (yr <sup>-1</sup> ): 12.20
Watershed area (ha): 402.1	P retention coeff.: 0.53
% watershed ponded: 7.5	Lake type: natural

BIOLOGICAL:

		20 January 1998	12 August 1997
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 45%	OSCILLATORIA 85%
	#2	TABELLARIA 15%	
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			8.42
DOM. ZOOPLANKTON (% TOTAL)	#1	NAUPLIUS LARVA 31%	KELLICOTTIA 39%
	#2	KERATELLA 14%	NAUPLIUS LARVA 29%
	#3	BOSMINA 14%	CYCLOPOID COPEPOD 10%
ROTIFERS/LITER		32	147
MICROCRUSTACEA/LITER		119	133
ZOOPLANKTON ABUNDANCE (#/L)		157	307
VASCULAR PLANT ABUNDANCE			Very abundant
SECCHI DISK TRANSPARENCY (m)			2.0
BOTTOM DISSOLVED OXYGEN (mg/L)		7.9	0.1
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		< 1
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>) : None  
Anoxic volume (m<sup>3</sup>) : 18000

**CHEMICAL:**

Lake: GREENS POND

Town: MERRIMACK

	20 January 1998		12 August 1997		
DEPTH (m)	1.0	3.0	1.5		3.0
pH (units)	6.8	6.8	6.2		6.2
A.N.C. (Alkalinity)	13.2	14.3	13.1		13.5
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.50	0.40	0.80		0.46
TOTAL PHOSPHORUS	0.008	0.008	0.026		0.040
CONDUCTIVITY ( $\mu$ mhos/cm)	174.4	184.4	144.5		141.8
APPARENT COLOR (cpu)	16	17	37		36
MAGNESIUM			1.34		
CALCIUM			7.6		
SODIUM			16.8		
POTASSIUM			0.81		
CHLORIDE	39	42	32		31
SULFATE	7	7	6		6
TN : TP	63	50	31		12
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1997**

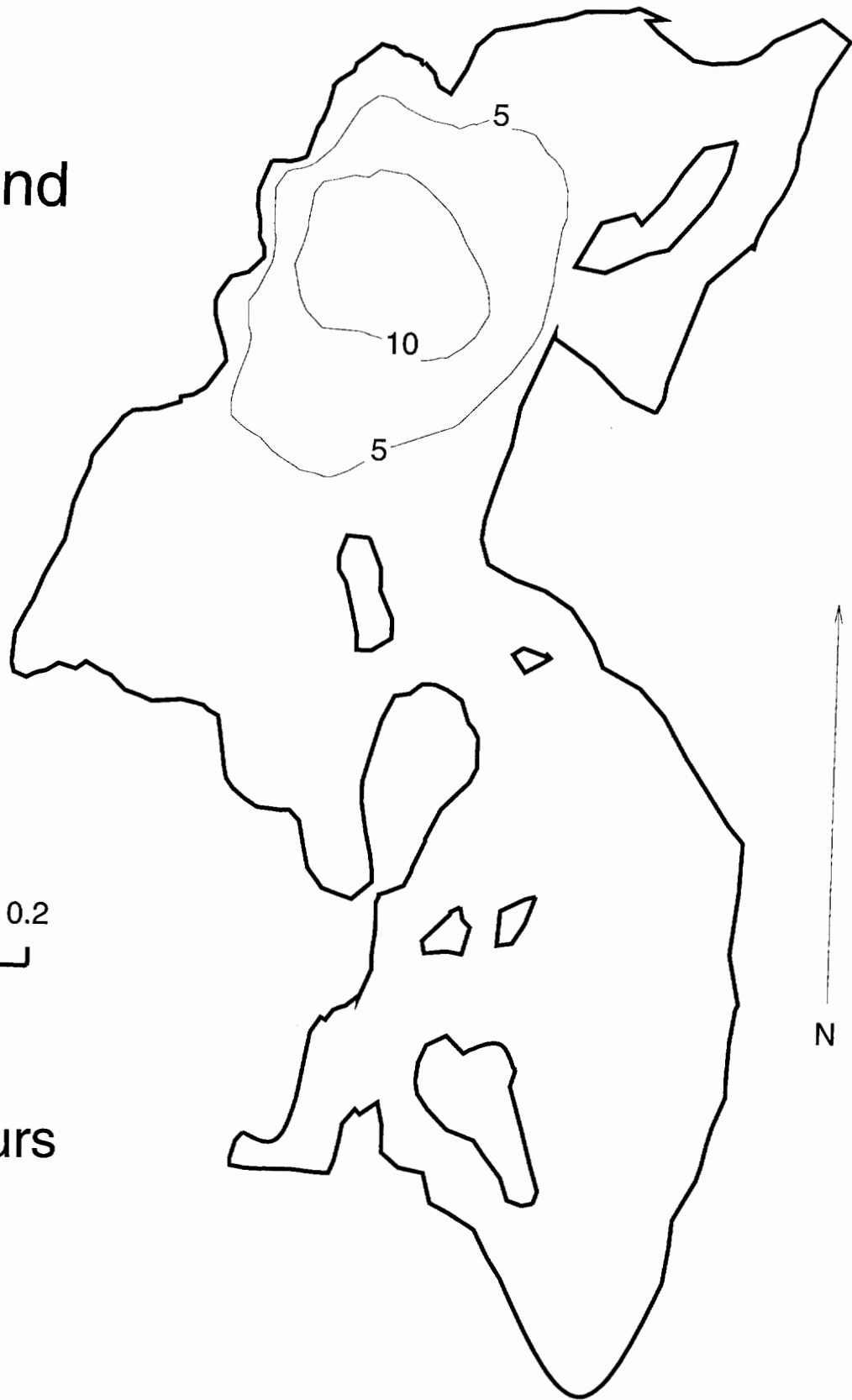
D.O. S.D. PLANT CHL TOTAL CLASS

**	4	6	2	12	Eutro.
----	---	---	---	----	--------

**COMMENTS:**

1. This is a former back-up water supply for the Town of Merrimack and still has signs posted stating it is a public water supply.
2. Much of this pond is more a wetland than a pond, with very little open water.
3. A bloom of the blue-green alga *Oscillatoria* was present during the summer sampling.
4. Elevated conductivity, chloride and sodium values suggest salted road runoff enters the pond.
5. A great blue heron, six Canadian geese and three beaver huts were observed on the pond.

# Greens Pond Merrimack

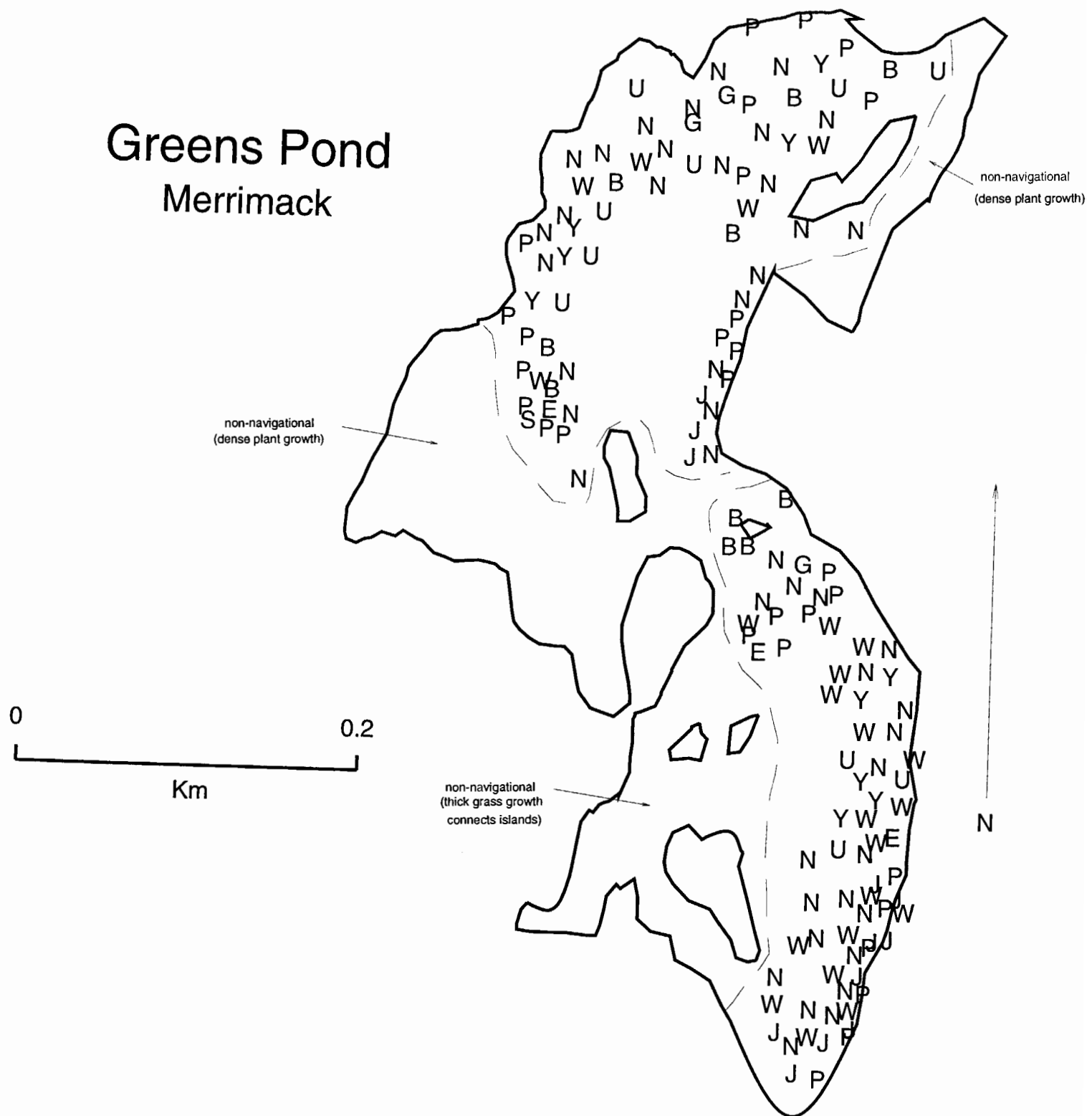


0 0.2  
Km

5 foot depth contours

[illegible]

# Greens Pond Merrimack



[illegible]